

Off-road Diesel Regulation

Large Fleets

2010 Requirements



This guide is for large fleets of off-road diesel vehicles that have completed the reporting and labeling requirements, and need guidance on the 2010 requirements of the off-road regulation. Requirements for medium and small fleets begin in 2013 and 2015, respectively.

What is a 'large' fleet?

Large fleets are those with over 5,000 horsepower when the maximum horsepower of all applicable off-road diesel vehicles in the fleet are combined. Companies with multiple divisions, or separate companies owned by a parent corporation, must combine the horsepower from all divisions and companies when determining total horsepower.

Federal and state agencies are considered large fleets regardless of horsepower. Municipal fleets in low population counties are small fleets, regardless of fleet horsepower.

After reporting and labeling, when do the first requirements for large fleets apply?

By March 1, 2010, large fleets must be in compliance with the 2010 performance requirements in the regulation. All large fleets must report fleet actions (i.e. how the fleet complied with the regulation with retirements, credits, exhaust retrofits, etc.) to ARB no later than April 1, 2010, although they can do so as soon as they perform each action. Fleets can report this information in the online reporting tool DOORS, the same tool used to report vehicles.

What are the 2010 requirements for large fleets?

Large fleets must comply with requirements for both:

1. **NOx** (oxides of nitrogen) ¹
2. **PM** (particulate matter)

Information about the NOx and PM requirements is detailed below. However, because compliance planning involves many decisions with significant financial consequences, most large fleets will need to use the DOORS compliance planning tool, the fleet average calculator, or other tools to create a compliance plan and perform the calculations.

¹ Fleets or subfleets operating exclusively in captive attainment areas are not required to meet the NOx requirements. These areas include the counties of Alpine, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Monterey, Plumas, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Trinity, Tehama, and Yuba.

Large Fleet Compliance Requirements

What is a fleet average, and how can I determine if my fleet meets the fleet average requirements?

The fleet averages are based on the average emission factor from each vehicle in the fleet. The emission factors for PM and NOx for each vehicle are based on the engine tier and the horsepower range, taken from the chart at the end of the regulation. However, ARB does not expect you to calculate the average yourself.

If a fleet is equal to or lower than the fleet average requirements for that year, then the fleet owner is not required to perform any additional actions to clean up the fleet.

The easiest way to determine if a fleet meets the fleet averages is in the online reporting tool, DOORS. Aside from the compliance planning tools in DOORS (which are currently down for system improvements and are expected to be up late soon), the **fleet summary page** calculates the fleet average for each fleet, and can show you if your fleet meets the fleet average targets. The fleet summary page is available only to those fleets that have reported and received EINs.

Below is a screenshot of the fleet average target portion of the summary page in DOORS for a fleet with engines that are 13 years old on average.

“6.1” This is the NOx fleet average target in 2010 (i.e. what the fleet must meet).

“7.4” This is the current NOx fleet average (i.e. current emissions average).

Target Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Nox Target	0.0	6.1	5.7	5.2	4.8	4.4	4.0	3.6	3.2	2.8	2.4	2.0
Nox Average (2009)	7.4											
PM Target	0.00	0.22	0.22	0.17	0.17	0.12	0.12	0.09	0.09	0.07	0.07	0.04
PM Average (2009)	0.44											

“0.22” 2010 PM fleet average target.

“0.44” Current PM fleet average.

Fleet Summary Page: (available in DOORS after receiving EINs)

Note that the calculator shows both the NOx and PM average, and the fleet average targets for each year. The targets will vary for each fleet that is reported, they are calculated based on the fleet composition.

Because this fleet's NOx average (**7.4**) is greater than the 2010 NOx target (**6.1**) the fleet must either lower their NOx fleet average or meet the NOx BACT requirements described below.

Similarly, because the fleet's PM average (**0.44**) is greater than the 2010 PM target (**0.22**), the fleet must either lower their PM fleet average or meet PM BACT requirements described below.

Fleets may also use the fleet average calculator, an Excel spreadsheet available at <http://www.arb.ca.gov/msprog/ordiesel/documents/documents.htm#fleet>, to determine if their fleet meets the fleet average.

The fleet average calculator will show the fleet average, fleet average target, and will show a "Yes" or "No" if the fleet has met the requirements.

Fleet average target

Fleet average emissions

NOx Fleet Target =	7.2	Needed Hp Turnover =	1440.0
NOx Fleet Average =	7.4	Current Hp Turnover =	0.0

Fleet Average Calculator

NOx Requirements

What if my fleet does not meet the NOx fleet average – what are the NOx BACT requirements?

If your fleet does not meet the NOx fleet average target, then you can either lower your average NOx emissions by moving to newer, cleaner vehicles or retiring the oldest ones, until you meet the fleet average target, or you can meet the NOx BACT requirements.

The NOx BACT requirements require that you turn over eight percent of your total fleet horsepower between March 1, 2009, and March 1, 2010. A fleet is never required to turn over more than 8 percent of its total fleet horsepower between March 1, 2009, and March 1, 2010.

These requirements can also be met with early credits such as reduced horsepower credit, reduced activity credit, early repowers, and others. For more information on early credits, see the early credit FAQ at: www.arb.ca.gov/msprog/ordiesel/faq/earlycredit.pdf

If fleets do not have early credit, or enough early credit to cover the BACT requirements, they must turn over engines in their fleet.

'Turn over' means

- o replacing older vehicles with newer ones,
- o repowering with a Tier 2 or newer engine,
- o retiring the fleet's oldest vehicles,
- o moving to electric or alternative fuel vehicles,
- o designating vehicles as permanent low-use (under 100 hrs per year),
- o rebuilding to a higher emissions standard, or
- o installing NOx-reducing retrofits.

Note that you must turn over Tier 0 engines, and Tier 1 engines between 50 and 174 horsepower, before you will receive credit for turning over any other engine in the fleet.

Example: I have a fleet with 10,000 horsepower, and my fleet does not meet the fleet average targets.

To meet the NOx BACT requirements, I need to turn over 8 percent of 10,000 horsepower, or 800 horsepower.

To meet the NOx BACT requirements in 2010, I choose to:

- o repower a 400 horsepower Tier 0 vehicle with a Tier 2 engine,
 - o retire a 200 horsepower Tier 0 vehicle, and
 - o replace a 200 horsepower Tier 0 vehicle with a Tier 2 vehicle,
- for a total of 800 horsepower turn over.

PM Requirements

What if my fleet does not meet the PM fleet average – what are the PM BACT requirements?

If your fleet does not meet the PM fleet average target, then you can either clean up your average PM emissions by moving to newer, cleaner vehicles or installing PM exhaust retrofits, or you can meet the PM BACT requirements.

The PM BACT requirements require that you retrofit 20 percent of your total fleet horsepower between March 1, 2009, and March 1, 2010.

These requirements can also be met with early credits such as reduced horsepower credit, reduced activity credit, and others. For more information on early credits, see the early credit FAQ at: <http://www.arb.ca.gov/msprog/ordiesel/fag/earlycredit.pdf>

Retrofit refers to installing an ARB-verified device that appears on the list of approved devices. Note that not all devices which have an aftermarket parts exemption will provide credit as a retrofit, the device must appear on the list of currently verified technology available from <http://www.arb.ca.gov/diesel/verdev/level3/level3.htm>

Alternatively, fleets can retire Tier 0 vehicles from their fleet, and not replace the horsepower. This will provide credit toward the required retrofits.

Retrofits completed by January 1, 2010, or ordered by September 1, 2009, will provide double credit towards the regulation requirements.

Example: I have a fleet with 10,000 horsepower, and my fleet does not meet the fleet average targets.

To meet the PM BACT requirements, I need retrofit 20 percent of my horsepower, or 2,000 horsepower.

To meet the PM BACT requirements in 2010, I choose to:

- o retrofit two 400 horsepower vehicles with Level 3 retrofits, prior to the January 1, 2010 deadline to receive double credit, and so receive 1,600 horsepower in credit
- o retire a 400 horsepower Tier 0 vehicle and not replace it for a total of 2,000 horsepower credit to PM BACT requirements.